

ABSTRACT

The present invention provides a digital signal encoding apparatus for encoding one-bit signals of a plurality of n ($n \geq 2$) channels which is modulated in the delta-sigma manner, which includes a channel compositor 6 for compositing scrambled data supplied from the scrambler L 4 and scrambled data supplied from the scrambler R 5, a phase modulator 7 for phase-modulating composited data supplied from the channel compositor 6, a SYNC signal adding and correcting unit 8 for receiving SYNC timing signals generated at and supplied from a SYNC timing generator 9 and inserting SYNC signals into phase-modulated one-bit audio signal data supplied from the phase modulator 7 to generate SYNC patterns and correct the SYNC patterns, and an information data adding unit 11 for adding information data which is related with one-bit audio signals to phase-modulated one-bit audio signal data via the SYNC signal adding and correcting unit 8 by rearranging data of inverted phases thereof on the basis of two channel unit.